

Grant will help him develop device to streamline school buses

By Susan Berger

Lots of kids like to tinker, but 14-year-old Jonny Cohen's tinkering has led to a breakthrough that could help a whole industry become more efficient.

It started with an idea inspired by a children's aerodynamics class the Highland Park teen took at Northwestern University, an idea he said hit him while he was walking home from school.

Noticing all the "not so friendly" carbon monoxide exhaust coming from the school buses, it occurred to Jonny that placing Plexiglas shields on the front of the buses might make them more streamlined and efficient.

Now the Highland Park High School freshman has won a \$25,000 grant through Pepsi's Refresh Project to develop his idea, which he calls GreenShields. He was the youngest and only Chicago-area winner among the first batch of 32 grant recipients, who were chosen through online voting at [refresheverything.com](http://refresheverything.com).

Jonny, with help from his sister Azza and several friends, built a wind tunnel in the Cohens' garage to test, on a smaller scale, the principles of GreenShields: that redirecting airflow around a bus would reduce drag and emissions and improve gas mileage.

Jonny "was born with a stroke of genius, and it blows my mind every day," said Azza Cohen, a Highland Park High junior.

The project has been a couple of years in the making. The summer after seventh grade, Jonny took his GreenShields idea to Highland Park High science department chairwoman Shannon

Bain. She invited him to join the Green School Initiative Science Club. But because of a requirement that team members be in high school, Jonny enlisted his sister and friends in her honors freshman physics class.

Within weeks, the project, helped along by Bain and Highland Park High physics teacher Kunal Pujara, caught the attention of U.S. Rep. Mark Kirk's office and earned a \$1,000 grant from Youth Venture, which bills itself as a "global community of young change makers." The group also won a school environmental education award.

"I am so impressed with all of (Jonny's) work and his fervor about it," Pujara said. "And he really wants to make a difference. He really does care about the environment."

Pujara said he's surprised no one has hit upon Jonny's idea before.

"Chicago bus systems have focused on energy efficiency, not aerodynamic design, as a way of improving gas mileage," Pujara said.

Jonny plans to use his new grant money toward computer-aided drawings, mechanical design services and materials he needs to build a GreenShields model. He even plans to buy an old school bus and hire a driver for test runs.

Although science is his true passion, Jonny is also on his school's ice hockey and golf teams. He loves the Beatles and Rolling Stones and said he "reads everything," especially books about famous inventors and scientists.

His mother Jakee said that when given an assignment in third grade to write about their heroes, most of Jonny's classmates chose sports stars. Jonny's subject: Leonardo da Vinci and his flying machines.

Jonny himself has long been a tinkerer and inventor. His projects have included a

voice-activated climbing robot that would walk across his room on a high wire and a solar-powered bowling game he entered in a fifth-grade science fair. He took apart his family's home computer because he wanted to see how the optical drive worked.

The family's favorite invention is the "spy bunny." Jonny had taken a miniature video camera from a helicopter he'd built, sewed the camera lens into the eye of the stuffed-animal bunny and placed it in his sister's bedroom. He beamed images of his sister to every TV in the house.

Cohen, who wants to be an aerospace engineer, said he hopes his GreenShields invention leads to good things.

"It can't hurt to stop polluting. It's got to be good," he said. "And less pollution will lead to healthier lives."

Azza Cohen is sure her brother will be some sort of inventor. "If he is changing the world when he is 12," she said, "I am really excited to see what he can do when he is 30."